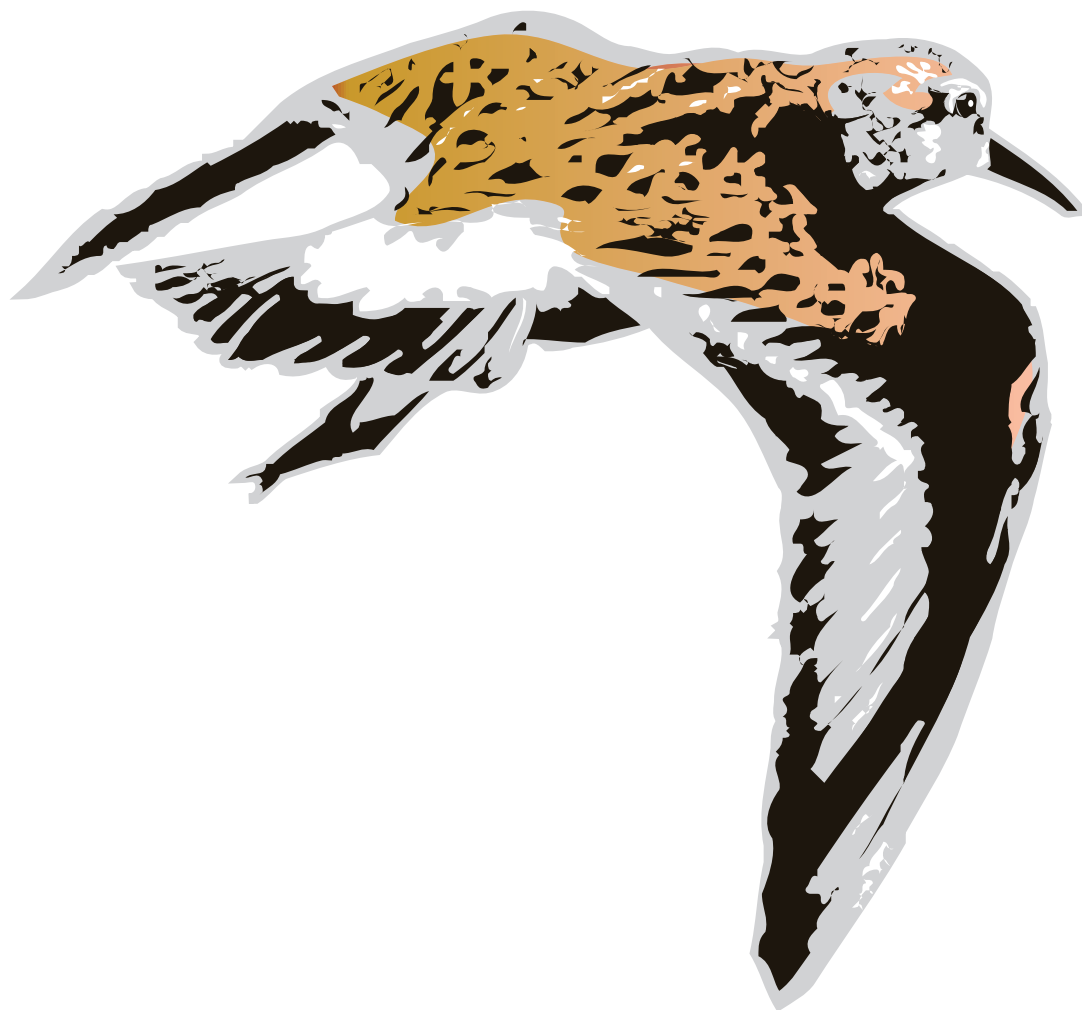


KANSAS SHOREBIRD SURVEY

2004



FEBRUARY 2005

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2004 KANSAS SHOREBIRD SURVEY PRELIMINARY RESULTS

Currently, we have received data for 39 sites (78%) surveyed in spring 2002, 33 sites (70%) surveyed in summer-fall 2002, 33 surveyed in spring 2003 (68%), 30 surveyed in summer-fall 2003 (62%), and 30 each in spring and summer-fall 2004 (56%) (Fig. 1). Most volunteers conducted one survey per survey period, 5 in spring and 8 in summer-fall. However, up to 49 surveys were conducted per site. To minimize bias due to differences in number of surveys, when analyzing data for statewide comparisons the maximum count for each species per site per 2-week survey period was selected.

In spring 2004, 172,061 shorebirds were reported, over four times as many as the spring 2003 total and nearly twice the spring 2002 total (Fig. 2). Not surprisingly, Cheyenne Bottoms Wildlife Area (CBWA, 83%) and Quivira National Wildlife Refuge (QNWR, 10% of the statewide total) accounted for the highest proportions of shorebirds in spring 2004. After these traditional hotspots came the Tuttle Creek Reservoir (1.6%) and Marais des

Cygnets Wildlife Area (1.2%).

During summer-fall 2004, 30,624 shorebirds were reported, about the same number as in summer-fall 2003 and less than half the number in summer-fall 2002 (Fig. 2). Shorebird numbers were again highest at CBWA (53%) and QNWR (30%), followed by the Flint Hills National Wildlife Refuge (6%) and the Cheyenne Bottoms TNC Preserve (4%). Because numbers of shorebirds at CBWA and QNWR comprised such a large proportion of shorebirds reported in this survey during spring and summer-fall, species composition and migration chronology for three groups of sites were analyzed: CBWA, QNWR, and the rest of the sites.

Kansas Shorebird Survey Site Locations

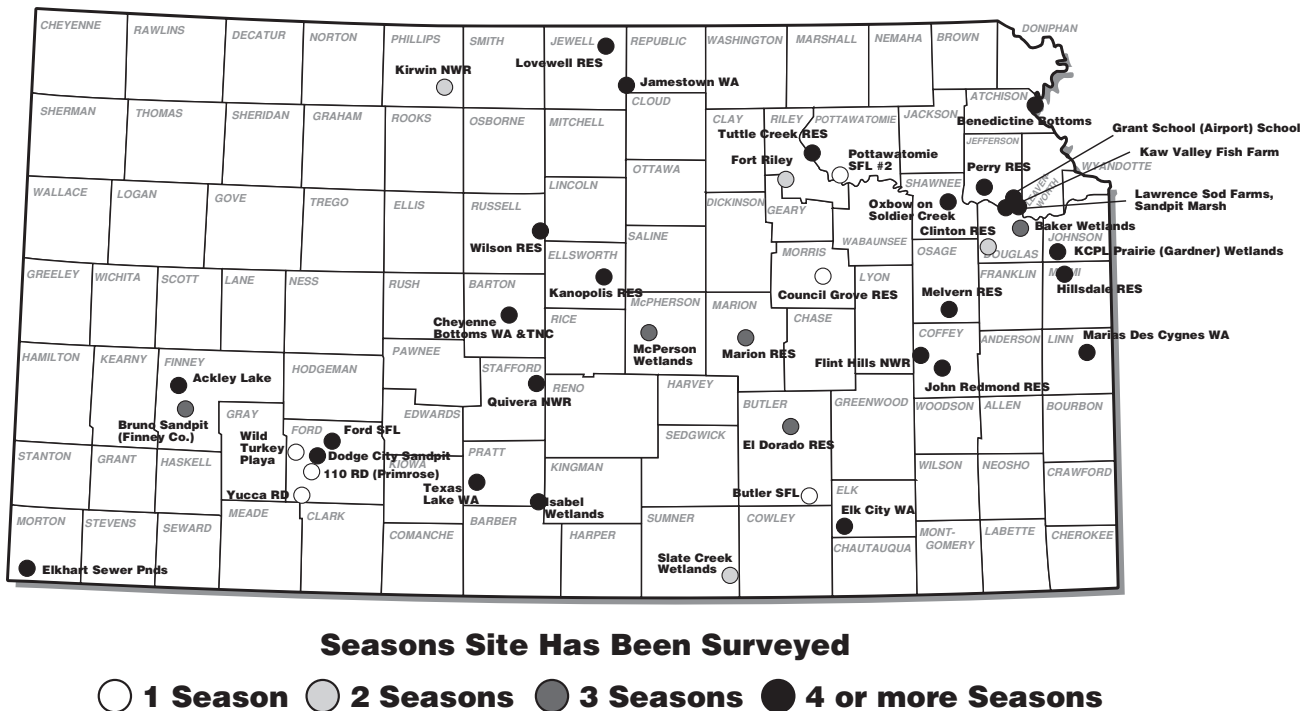


FIGURE 1

SURVEY FINDINGS

During both spring and summer-fall 2004, 36 species of shorebirds were recorded. Statewide, unidentified shorebirds comprised 33% of shorebirds recorded, however, most (92%) of these were from CBWA (Fig. 3). Of those shorebirds identified to at least a group (i.e., excluding the unidentified shorebirds), species composition varied between the three groups of sites during spring and summer-fall.

At CBWA in spring 2004, “peeps” (57%), Wilson’s phalaropes (23%), and dowitchers (14%) were the most common shorebirds reported. Wilson’s phalaropes (46%) and Baird’s sandpipers (12%) were the most common species at QNWR. Throughout the rest of the state, peeps (28%) were the most common species reported, followed by lesser yellowlegs (12%) and least sandpipers (10%).

During summer-fall 2004, dowitchers (50%) were the predominant species at CBWA. Stilt sandpipers (19%) and peeps (10%) also were common. At QNWR, peeps (41%) were the most common species, followed by dowitchers (13%) and least sandpipers (10%). Killdeer (31%) was the most commonly reported species throughout the rest of the state, followed by peeps (16%) and least sandpipers (11%).

Migration chronology differed among the three groups of sites in spring 2004 (Fig. 4). At CBWA, shorebirds numbers increased dramatically from the last two weeks of March to the first two weeks of April, remained steady during the next three periods, and then increased again during the last two weeks of May. Shorebird numbers at QNWR peaked during the last two weeks of April and the first two weeks of May. Throughout the rest of the state, shorebird numbers peaked during the first two weeks of May.

During summer-fall, migration chronology again differed among the three groups of sites (Fig. 4). At CBWA, shorebirds peaked during the first two weeks of October. Shorebird numbers peaked during the first two weeks of September at QNWR; however, no surveys were conducted during October. Throughout the rest of the state there was no discernable peak and numbers tended to fluctuate.

These results are very preliminary and it is too early to reach conclusions. Patterns in shorebird migration such as site use,

species composition, and timing vary annually in response to many factors including weather and habitat conditions. Rainfall was below average throughout the western part of the state before and during the survey periods. Thus, water levels in most marshes in the west were relatively low and availability of shorebird habitat at such sites was probably below average to non-existent. However, many reservoirs and other water areas in the east experienced high water levels during portions of 2004.

It is premature to conclude that Cheyenne Bottoms and QNWR are the only important shorebird areas in the state. Surveys need to continue for a few more years (at least two) to adequately assess the value of other shorebird areas in the state. Surveys during different weather patterns are necessary to make this assessment.

The size of Cheyenne Bottoms and QNWR is one reason that they attract large numbers of shorebirds. To adequately compare shorebird use among all the sites in this survey, the density of shorebird use will be calculated in addition to the number of shorebirds. This will require maps of all sites surveyed.

Currently, maps of the survey area are available for 37 of the 51 sites. The survey area is the portion of the site where searches for shorebirds actually occurred. Estimates of “percent of site suitable for shorebirds today” will be used to further refine density estimates and to track habitat availability at each site. However, these density estimates can only be calculated if survey area maps are available and there are enough estimates of habitat availability.

Figure 2. Number and percent of shorebirds reported from survey areas throughout Kansas during spring and summer-fall 2002-2004.

Location	2002				2003				2004			
	Spring		Summer-fall		Spring		Summer-fall		Spring		Summer-fall	
	n Surveys	%	n Surveys	%	n Surveys	%	n Surveys	%	n Surveys	%	n Surveys	%
Ackley Lake	5	0	8	7	0	0	0	0	5	8	0	0
Grant School (Airport Slough)	5	13	7	14	0	0	0	0	5	3	0	0
Baker Wetlands			5	99	0	0	0	0	4	63	0	2
Benedictine Bottoms	3	165	7	31	0	0	0	0	5	58	0	1
Black Vermillion Marsh			1	4	0	0	0	0	8	9	0	0
Bruno (Finney Co.) Sandpit	5	112	1	4	0	0	0	0	8	179	0	6
Butler State Fishing Lake									1	2	0	0
Cheyenne Bottoms TNC Preserve	5	575	8	1,209	3	9	5	2,523	5	137	0	4
Cheyenne Bottoms Wildlife Area	5	143,067	8	16,327	53	3	5	15,683	34	2	71,139	72
Council Grove Reservoir									5	26	0	0
Clinton Reservoir									3	325	0	3
Coblentz Marsh			4	16	0	0	0	0	3	206	0	2
Dodge City Sandpit	3	19	0	0	0	0	0	0	5	64	0	1
Elk City Wildlife Area			5	82	0	2	4	808	1	5	518	0
El Dorado Reservoir	5	5	0	0	0	0	0	0	4	209	0	2
Elkhart Sewer Ponds	5	542	8	153	0	5	5	432	0	5	210	0
Flint Hills NWR	5	1,519	8	1,796	5	9	5	814	1	5	1,429	1
Ford State Fishing Lake	1	3	0	0	0	0	0	0	1	7	0	0
Ford Co. cropland			1	15	0	0	0	0	3	16	0	0
Fort Riley			4	7	0	0	0	0	4	170	0	2
Hillsdale Reservoir	4	38	0	0	0	0	0	0	5	419	0	4
Isabel Wetlands	3	23	0	0	0	0	0	0	8	433	0	6
John Redmond Reservoir	5	803	0	5	7	408	1	3	5	40	0	0
Jamestown Wildlife Area	3	100	0	1	3	15	0	0	6	139	0	1
Kanopolis Reservoir	4	10	0	0	0	0	0	0	5	72	0	1
Kaw Valley Fish Farm	5	54	0	0	0	0	0	0	4	39	0	0
KCPL Wetlands	5	149	0	1	8	271	0	9	5	68	0	1
Kirwin National Wildlife Refuge			5	312	0	7	178	0	3	275	0	3
Lawrence Sandpit Marsh			5	1	0	0	0	0	4	1,133	1	2
Lawrence Sod Farm	5	0	0	0	7	42	0	1	5	19	0	0
Lovewell Reservoir	2	13	0	0	5	117	0	4	8	127	0	4
Marais des Cygnes Wildlife Area	1	2,089	1	2	28	0	1	5	3	47	0	2
Marion Reservoir			4	51	0	1	6	73	0	2	1,185	3
McPherson Reservoir	5	88	0	1	8	139	0	5	5	174	0	2
McPherson Wetlands	5	180	0	1	7	255	0	8	8	238	0	8
Oxbow on Soldier Creek	5	90	0	1	8	8	0	0	5	55	0	1
Perry Reservoir	5	48	0	0	6	2	0	0	4	84	0	1
Pottawatomie Co. Lake #2									4	19	0	0
Preheim Pond									1	0	0	0
Quivira NWR	5	16,988	9	9	6	9,250	30	2	4	21,257	46	3
Swede Creek			1	0	0	0	0	0	6	11,468	37	5
Slate Creek Wetlands			3	1,300	2	8	5	777	2	5	777	2
Tuttle Creek Reservoir	5	2,778	1	7	184	0	6	4	5	218	0	7
Texas Lake Wildlife Area	4	1,203	0	7	4	39	0	1	4	70	0	2
Timber Creek Marsh			1	0	0	0	0	0	5	90	0	3
Wilson Reservoir	5	117	0	1	8	178	0	6	5	44	0	1
Wild Turkey Playa			2	18	0	0	0	0	8	133	0	4
Yucca Rd. (Ford Co.)			1	50	0	1	0	0	7	50	0	2
Total												

FIGURE 2

Figure 3. Number of shorebirds and percent of total shorebirds (excluding unidentified shorebirds) at Cheyenne Bottoms Wildlife Area (CBWA), Quivira National Wildlife Refuge (QNWR), and 32 other sites throughout Kansas during spring and summer-fall 2004.

	CBWA		Spring		Rest of State		CBWA		Summer-fall		Rest of State	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Black-bellied plover	2	0.0	64	0.4	0	0.0	3	0.0	6	0.1	10	0.2
American golden-plover	1	0.0	26	0.2	29	0.2	0	0.0	0	0.0	4	0.1
Snowy plover	76	0.1	174	1.2	4	0.0	24	0.1	180	2.0	0	0.0
Semipalmated plover	71	0.1	41	0.3	60	0.5	7	0.0	45	0.5	7	0.1
Piping plover	0	0.0	5	0.0	4	0.0	0	0.0	15	0.2	0	0.0
Killdeer	144	0.2	337	2.3	1,015	8.2	675	4.0	274	3.0	1,589	31.3
Black-necked stilt	20	0.0	453	3.0	23	0.2	106	0.6	325	3.6	0	0.0
American avocet	1,231	1.3	327	2.2	49	0.4	1,011	6.0	474	5.2	47	0.9
Greater yellowlegs	250	0.3	298	2.0	526	4.2	234	1.4	200	2.2	103	2.0
Lesser yellowlegs	348	0.4	387	2.6	1,440	11.6	174	1.0	160	1.7	276	5.4
Unidentified yellowlegs	300	0.3	454	3.0	47	0.4	94	0.6	193	2.1	39	0.8
Solitary sandpiper	0	0.0	0	0.0	16	0.1	7	0.0	0	0.0	59	1.2
Willet	4	0.0	18	0.1	18	0.1	0	0.0	22	0.2	11	0.2
Spotted sandpiper	9	0.0	34	0.2	122	1.0	13	0.1	21	0.2	90	1.8
Upland sandpiper	1	0.0	3	0.0	69	0.6	0	0.0	2	0.0	38	0.7
Whimbrel	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0	1	0.0
Long-billed curlew	54	0.1	2	0.0	0	0.0	1	0.0	0	0.0	0	0.0
Hudsonian godwit	13	0.0	15	0.1	65	0.5	0	0.0	0	0.0	1	0.0
Marbled godwit	5	0.0	7	0.0	1	0.0	1	0.0	1	0.0	2	0.0
Ruddy turnstone	0	0.0	3	0.0	0	0.0	3	0.0	0	0.0	0	0.0
Sanderling	107	0.1	10	0.1	1	0.0	10	0.1	8	0.1	29	0.6
Semipalmated sandpiper	133	0.1	693	4.6	276	2.2	39	0.2	138	1.5	40	0.8
Western sandpiper	142	0.2	0	0.0	19	0.2	27	0.2	21	0.2	5	0.1
Least sandpiper	84	0.1	47	0.3	1,242	10.0	764	4.5	946	10.3	565	11.1
White-rumped sandpiper	206	0.2	702	4.7	369	3.0	0	0.0	12	0.1	0	0.0
Baird's sandpiper	1,655	1.8	1,794	12.0	578	4.7	128	0.8	29	0.3	122	2.4
Pectoral sandpiper	24	0.0	118	0.8	1,048	8.4	19	0.1	37	0.4	289	5.7
Dunlin	2	0.0	7	0.0	1	0.0	1	0.0	0	0.0	0	0.0
Stilt sandpiper	447	0.5	405	2.7	310	2.5	3,146	18.6	467	5.1	116	2.3
Buff-breasted sandpiper	0	0.0	0	0.0	0	0.0	0	0.0	3	0.0	25	0.5
Ruff	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Peep	53,552	57.3	1,082	7.2	3,506	28.3	1,682	9.9	3,722	40.7	834	16.4
Short-billed dowitcher	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	7	0.1
Long-billed dowitcher	0	0.0	0	0.0	135	1.1	0	0.0	0	0.0	71	1.4
Unidentified dowitcher	12,765	13.6	428	2.9	256	2.1	8,509	50.3	1,216	13.3	132	2.6
Wilson's snipe	0	0.0	8	0.1	107	0.9	113	0.7	5	0.1	471	9.3
American woodcock	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	10	0.2
Wilson's phalarope	21,870	23.4	6,842	45.7	1,056	8.5	128	0.8	621	6.8	82	1.6
Red-necked phalarope	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Unidentified <i>Charadrius</i> plover	0	0.0	172	1.1	0	0.0	0	0.0	8	0.1	0	0.0
Unidentified <i>Pluvialis</i> plover	18	0.0	10	0.1	13	0.1	3	0.0	1	0.0	0	0.0
Unidentified shorebirds	68,990		5,295		0		46		418		4	
Total shorebirds	162,525		20,264		12,408		16,968		9,570		5,079	

FIGURE 3

Kansas Shorebird Survey Migration Chronology 2004

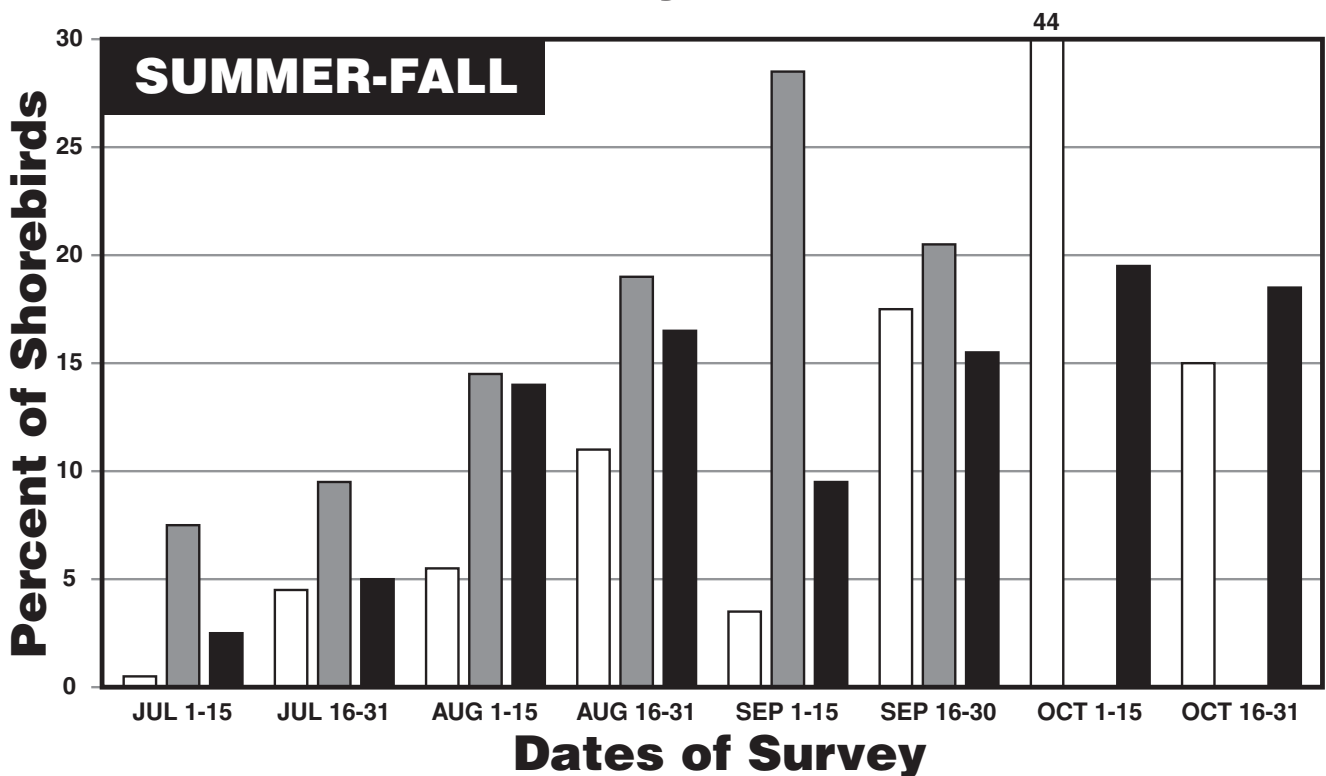
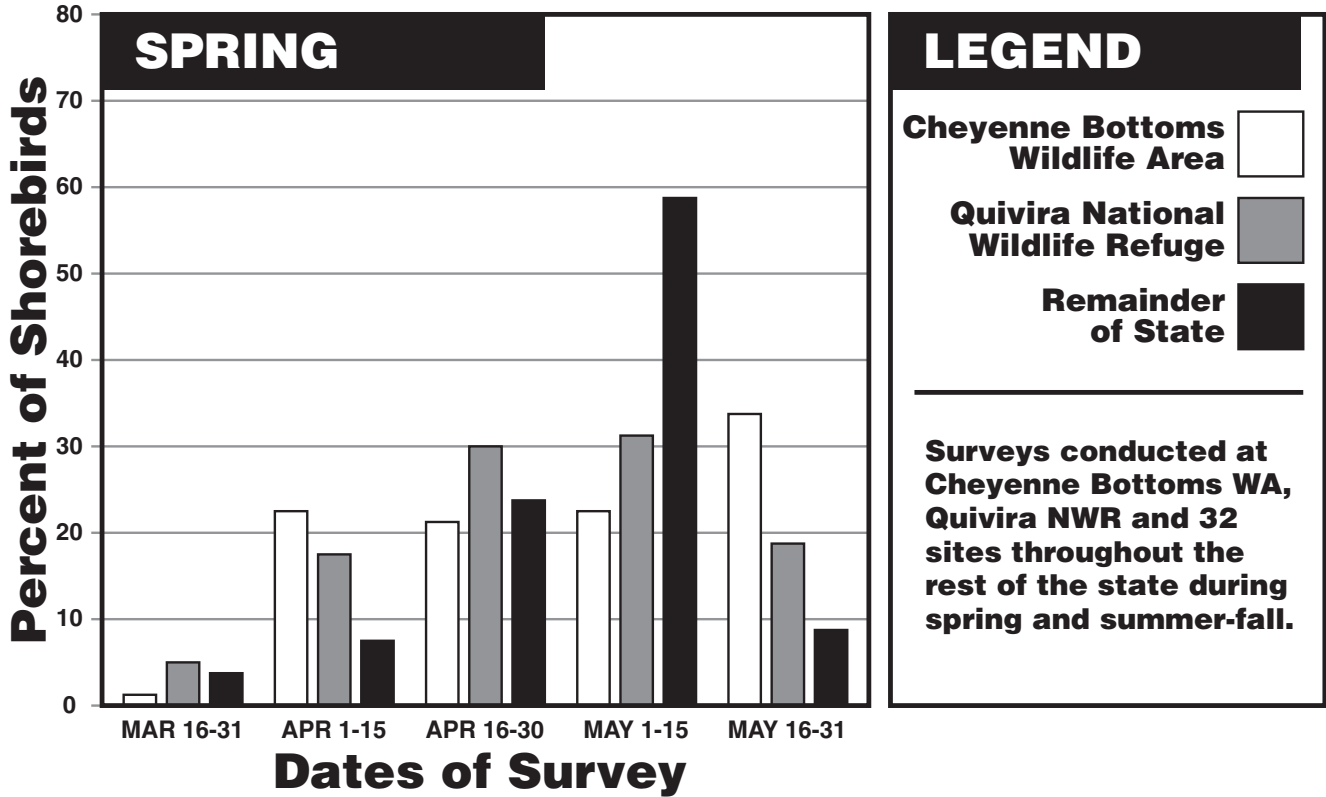


FIGURE 4

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